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SEQUENCE LISTING

<110> Gure, Ali
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Scanlan, Matthew J.
Jager, Dirk
Old, Lloyd J.
Chen, Yao-Tseng

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<213> Homo sapiens

<400> 18

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35 40 45
Asp Arg Val Lys Arg Pro Met Asn Ala Phe Met Val Trp Ser Arg Gly
50 55 60
Gln Arg Arg Lys Met Ala Gln Glu Asn Pro Lys Met His Asn Ser Glu
65 70 75 80
Ile Ser Lys Arg Leu Gly Ala Glu Trp Lys Val Met Ser Glu Ala Glu
85 90 95
Lys Arg Pro Phe Ile Asp Glu Ala Lys Arg Leu Arg Ala Leu His Met
100 105 110
Lys Glu His Pro Asp Tyr Lys Tyr Arg Pro Arg Arg Lys Thr Lys Thr
115 120 125
Leu Leu Lys Lys Asp Lys Tyr Ser Leu Ala Gly Gly Leu Leu Ala Ala
130 135 140
Gly Ala Gly Gly Gly Gly Ala Ala Val Ala Met Gly Val Gly Val Gly
145 150 155 160
Val Gly Ala Ala Pro Val Gly Gln Arg Leu Glu Ser Pro Gly Gly Ala
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Ala Gly Gly Ala Tyr Ala His Val Asn Gly Trp Ala Asn Gly Ala Tyr
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Pro Gly Ser Val Ala Ala Ala Ala Ala Ala Ala Ala Met Met Gln Glu
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His Asn Pro Gln Pro Met His Arg Tyr Asp Met Gly Ala Leu Gln Tyr
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Tyr Gly Gly Leu Pro Tyr Gly Ala Ala Ala Ala Ala Ala Ala Ala His
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Gln Asn Ser Ala Val Ala Ala Ala Ala Ala Ala Ala Ala Ala Ser Ser
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Arg Glu Met Ile Ser Met Tyr Leu Pro Ala Gly Glu Gly Gly Asp Pro
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<213> Homo sapiens

<400> 19

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        35                  40                  45
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    50                  55                  60
Lys Met His Asn Ser Glu Ile Ser Lys Arg Leu Gly Ala Glu Trp Lys
65                  70                  75                  80
Leu Leu Ser Glu Thr Glu Lys Arg Pro Phe Ile Asp Glu Ala Lys Arg
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Leu Arg Ala Leu His Met Lys Glu His Pro Asp Tyr Lys Tyr Arg Pro
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Arg Arg Lys Thr Lys Thr Leu Met Lys Lys Asp Lys Tyr Thr Leu Pro
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Gly Gly Leu Leu Ala Pro Gly Gly Asn Ser Met Ala Ser Gly Val Gly
    130                 135                 140
Val Gly Ala Gly Leu Gly Ala Gly Val Asn Gln Arg Met Asp Ser Tyr
145                 150                 155                 160
Ala His Met Asn Gly Trp Ser Asn Gly Ser Tyr Ser Met Met Gln Asp
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Gln Leu Gly Tyr Pro Gln His Pro Gly Leu Asn Ala His Gly Ala Ala
            180                 185                 190
Gln Met Gln Pro Met His Arg Tyr Asp Val Ser Ala Leu Gln Tyr Asn
        195                 200                 205
Ser Met Thr Ser Ser Gln Thr Tyr Met Asn Gly Ser Pro Thr Tyr Ser
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225                 230                 235                 240
Gly Ser Val Val Lys Ser Glu Ala Ser Ser Ser Pro Pro Val Val Thr
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Ser Ser Ser His Ser Arg Ala Pro Cys Gln Ala Gly Asp Leu Arg Asp
            260                 265                 270
Met Ile Ser Met Tyr Leu Pro Gly Ala Glu Val Pro Glu Pro Ala Ala
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<212> PRT
<213> Homo sapiens

<400> 20

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Asp Ser Leu Ala His Arg Pro Pro Ser Ser Ala Pro Thr Glu Ser Gln
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Gly Leu Phe Thr Val Ala Ala Pro Ala Pro Gly Ala Pro Ser Pro Pro
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Ala Thr Leu Ala His Leu Leu Pro Ala Pro Ala Met Tyr Ser Leu Leu
65                  70                  75                  80
Glu Thr Glu Leu Lys Asn Pro Val Gly Thr Pro Thr Gln Ala Ala Gly
                85                  90                  95
Thr Gly Gly Pro Ala Ala Pro Gly Gly Ala Gly Lys Ser Ser Ala Asn
            100                 105                 110
Ala Ala Gly Gly Ala Asn Ser Gly Gly Gly Ser Ser Gly Gly Ala Ser
        115                 120                 125
Gly Gly Gly Gly Gly Thr Asp Gln Asp Arg Val Lys Arg Pro Met Asn
    130                 135                 140
Ala Phe Met Val Trp Ser Arg Gly Gln Arg Arg Lys Met Ala Leu Glu
145                 150                 155                 160
Asn Pro Lys Met His Asn Ser Glu Ile Ser Lys Arg Leu Gly Ala Asp
                165                 170                 175
Trp Lys Leu Leu Thr Asp Ala Glu Lys Arg Pro Phe Ile Asp Glu Ala
            180                 185                 190
Lys Arg Leu Arg Ala Val His Met Lys Glu Tyr Pro Asp Tyr Lys Tyr
        195                 200                 205
Arg Pro Arg Arg Lys Thr Lys Thr Leu Leu Lys Lys Asp Lys Tyr Ser
    210                 215                 220
Leu Pro Ser Gly Leu Leu Pro Pro Gly Ala Ala Ala Ala Ala Ala Ala
225                 230                 235                 240
Ala Ala Ala Ala Ala Ala Ala Ala Ser Ser Pro Val Gly Val Gly Gln
                245                 250                 255
Arg Leu Asp Thr Tyr Thr His Val Asn Gly Trp Ala Asn Gly Ala Tyr
            260                 265                 270
Ser Leu Val Gln Glu Gln Leu Gly Tyr Ala Gln Pro Pro Ser Met Ser
        275                 280                 285
Ser Pro Pro Pro Pro Pro Ala Leu His Arg Tyr Asp Met Ala Gly Leu
    290                 295                 300
Gln Tyr Ser Pro Met Met Pro Pro Gly Ala Gln Ser Tyr Met Asn Val
305                 310                 315                 320
Ala Ala Ala Ala Ala Ala Ala Ser Gly Tyr Gly Gly Met Ala Pro Ser
                325                 330                 335
Ala Thr Ala Ala Ala Ala Ala Ala Tyr Gly Gln Gln Pro Ala Thr Ala
            340                 345                 350
Ala Ala Ala Ala Ala Ala Ala Ala Ala Met Ser Leu Gly Pro Met Gly
        355                 360                 365
Ser Val Val Lys Ser Glu Pro Ser Ser Pro Pro Pro Ala Ile Ala Ser
    370                 375                 380
His Ser Gln Arg Ala Cys Leu Gly Asp Leu Arg Asp Met Ile Ser Met
385                 390                 395                 400
Tyr Leu Pro Pro Gly Gly Asp Ala Ala Asp Ala Ala Ser Pro Leu Pro
                405                 410                 415
Gly Gly Arg Leu His Gly Val His Gln His Tyr Gln Gly Ala Gly Thr
            420                 425                 430
Ala Val Asn Gly Thr Val Pro Leu Thr His Ile
        435                 440
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<210> 21
<211> 276
<212> PRT
<213> Homo sapiens

<400> 21

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Met Ser Lys Pro Val Asp His Val Lys Arg Pro Met Asn Ala Phe Met
 1               5                  10                  15
Val Trp Ser Arg Ala Gln Arg Arg Lys Met Ala Gln Glu Asn Pro Lys
            20                  25                  30
Met His Asn Ser Glu Ile Ser Lys Arg Leu Gly Ala Glu Trp Lys Leu
        35                  40                  45
Leu Thr Glu Ser Glu Lys Arg Pro Phe Ile Asp Glu Ala Lys Arg Leu
```

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     50                  55                  60
Arg Ala Met His Met Lys Glu His Pro Asp Tyr Lys Tyr Arg Pro Arg
65                  70                  75                  80
Arg Lys Pro Lys Thr Leu Leu Lys Lys Asp Lys Phe Ala Phe Pro Val
                85                  90                  95
Pro Tyr Gly Leu Gly Gly Val Ala Asp Ala Glu His Pro Ala Leu Lys
            100                 105                 110
Ala Gly Ala Gly Leu His Ala Gly Ala Gly Gly Gly Leu Val Pro Glu
        115                 120                 125
Ser Leu Leu Ala Asn Pro Glu Lys Ala Ala Ala Ala Ala Ala Ala Ala
    130                 135                 140
Ala Ala Arg Val Phe Phe Pro Gln Ser Ala Ala Ala Ala Ala Ala Ala
145                 150                 155                 160
Ala Ala Ala Ala Ala Ala Gly Ser Pro Tyr Ser Leu Leu Asp Leu Gly
                165                 170                 175
Ser Lys Met Ala Glu Ile Ser Ser Ser Ser Ser Gly Leu Pro Tyr Ala
            180                 185                 190
Ser Ser Leu Gly Tyr Pro Thr Ala Gly Ala Gly Ala Phe His Gly Ala
        195                 200                 205
Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Gly His Thr His
    210                 215                 220
Ser His Pro Ser Pro Gly Asn Pro Gly Tyr Met Ile Pro Cys Asn Cys
225                 230                 235                 240
Ser Ala Trp Pro Ser Pro Gly Leu Gln Pro Pro Leu Ala Tyr Ile Leu
                245                 250                 255
Leu Pro Gly Met Gly Lys Pro Gln Leu Asp Pro Tyr Pro Ala Ala Tyr
            260                 265                 270
Ala Ala Ala Leu
        275


&lt;210&gt; 22
&lt;211&gt; 533
&lt;212&gt; PRT
&lt;213&gt; Homo sapiens

&lt;400&gt; 22
Met Leu Leu Asp Ala Gly Pro Gln Phe Pro Ala Ile Gly Val Gly Ser
 1               5                  10                  15
Phe Ala Arg His His His His Ser Ala Ala Ala Ala Ala Ala Ala Ala
            20                  25                  30
Ala Glu Met Gln Asp Arg Glu Leu Ser Leu Ala Ala Ala Gln Asn Gly
        35                  40                  45
Phe Val Asp Ser Ala Ala Ala His Met Gly Ala Phe Lys Leu Asn Pro
    50                  55                  60
Gly Ala His Glu Leu Ser Pro Gly Gln Ser Ser Ala Phe Thr Ser Gln
65                  70                  75                  80
Gly Pro Gly Ala Tyr Pro Gly Ser Ala Ala Ala Ala Ala Ala Ala Ala
                85                  90                  95
Ala Leu Gly Pro His Ala Ala His Val Gly Ser Tyr Ser Gly Pro Pro
            100                 105                 110
Phe Asn Ser Thr Arg Asp Phe Leu Phe Arg Ser Ala Arg Leu Pro Gly
        115                 120                 125
Thr Ser Ala Pro Gly Gly Gly Gln His Gly Leu Phe Gly Pro Gly Ala
    130                 135                 140
Gly Gly Leu His His Ala His Ser Asp Ala Gln Gly His Leu Leu Phe
145                 150                 155                 160
Pro Gly Leu Pro Glu Gln His Gly Pro His Gly Ser Gln Asn Val Leu
                165                 170                 175
Asn Gly Gln Met Arg Leu Gly Leu Pro Gly Glu Val Phe Gly Arg Ser
            180                 185                 190
Glu Gln Tyr Arg Gln Val Ala Ser Pro Arg Thr Asp Pro Tyr Ser Ala
        195                 200                 205
Ala Gln Leu His Asn Gln Tyr Gly Pro Met Asn Met Asn Met Gly Met
```

```
    210                 215                 220
Asn Met Ala Ala Ala Ala Ala His His His His His His His His His
225                 230                 235                 240
Pro Gly Ala Phe Phe Arg Tyr Met Arg Gln Gln Cys Ile Lys Gln Glu
                245                 250                 255
Leu Ile Cys Lys Trp Ile Asp Pro Glu Gln Leu Ser Asn Pro Lys Lys
            260                 265                 270
Ser Cys Asn Lys Thr Phe Ser Thr Met His Glu Leu Val Thr His Val
        275                 280                 285
Ser Val Glu His Val Gly Gly Pro Glu Gln Ser Asn His Val Cys Phe
    290                 295                 300
Trp Glu Glu Cys Pro Arg Glu Gly Lys Pro Phe Lys Ala Lys Tyr Lys
305                 310                 315                 320
Leu Val Asn His Ile Arg Val His Thr Gly Glu Lys Pro Phe Pro Cys
                325                 330                 335
Pro Phe Pro Gly Cys Gly Lys Val Phe Ala Arg Ser Glu Asn Leu Lys
            340                 345                 350
Ile His Lys Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Glu Phe
        355                 360                 365
Glu Gly Cys Asp Arg Arg Phe Ala Asn Ser Ser Asp Arg Lys Lys His
    370                 375                 380
Met His Val His Thr Ser Asp Lys Pro Tyr Leu Cys Lys Met Cys Asp
385                 390                 395                 400
Lys Ser Tyr Thr His Pro Ser Ser Leu Arg Lys His Met Lys Val His
                405                 410                 415
Glu Ser Ser Pro Gln Gly Ser Glu Ser Ser Pro Ala Ala Ser Ser Gly
            420                 425                 430
Tyr Glu Ser Ser Thr Pro Pro Gly Leu Val Ser Pro Ser Ala Glu Pro
        435                 440                 445
Gln Ser Ser Ser Asn Leu Ser Pro Ala Ala Ala Ala Ala Ala Ala Ala
    450                 455                 460
Ala Ala Ala Ala Ala Ala Ala Val Ser Ala Val His Arg Gly Gly Gly
465                 470                 475                 480
Ser Gly Ser Gly Gly Ala Gly Gly Gly Ser Gly Gly Gly Ser Gly Ser
                485                 490                 495
Gly Gly Gly Gly Gly Gly Ala Gly Gly Gly Gly Gly Gly Ser Ser Gly
            500                 505                 510
Gly Gly Ser Gly Thr Ala Gly Gly His Ser Gly Leu Ser Ser Asn Phe
        515                 520                 525
Asn Glu Trp Tyr Val
    530
```